

REMARKS

The Official Action of January 8, 2008, and the prior art cited and relied upon therein have been carefully reviewed. The claims in the application are now claims 1, 2 and 5-15, including withdrawn claim 10 and new claims 11-15. These claims define patentable subject matter warranting their allowance. Favorable reconsideration and allowance are respectfully urged.

Acknowledgement by the PTO of the receipt of applicants' papers filed under Section 119 is noted.

New claims 11-15 have been added, and these are patentable for at least because they depend indirectly, and thus each incorporates the subject matter of claim 1 which is patentable for the reasons pointed out below. Claim 11 finds support in the third and last lines of page 4. Claim 12 finds support in the second line of the last paragraph on page 4. Claims 13-15 find support in the last paragraph on page 3 of applicants' specification.

Claims 1 and 3-9 have been rejected under the second paragraph of Section 112, the rejection stating that the phrase "can be realized" is unclear. The rejection is respectfully traversed.

The phrase in question belongs to the recitation "wherein the spin performance of defined filament titres can be realized with a breadth of fluctuation of relative solution viscosity...." Applicants believe that such recitation would be clear to those skilled in the art, particularly considering applicants' specification (fully consistent with the law). Nevertheless, applicants understand that the language in question is considered to not be in accordance with U.S. practice. Accordingly, some cosmetic amendments in this regard have been made in claim 1 to better conform with U.S. practice, the new language selected being equivalent to the original language, and finding approximately direct antecedent basis in paragraph [0016] of the U.S. publication 2006/0103046 of the present application.

Withdrawal of the rejection is in order and is respectfully requested.

No other objections as to form or rejections under Section 112 have been imposed, whereby applicants understand that (except for what is discussed above relative to the rejection of claim 1 under the second paragraph of Section 112,) the PTO considers applicants' claims to be in good form. Applicants are proceeding in reliance thereof. However, applicants have noticed that the original form of claims 5 and 6 is not in accordance with U.S. practice, and so cosmetic

amendments of claims 5 and 6 are made above to use proper alternative language in claim 5 and proper Markush language in claim 6.

Claims 1 and 3-9 have been rejected under Section 103 as obvious from Stein et al USP 6,174,474 (Stein) in view of Simons USP 5,714,258 (Simons). This rejection is respectfully traversed.

Applicants are well aware of Stein, which applicants cited in an IDS filed September 13, 2005, and in which one of the present applicants was a co-inventor. Stein, which provided the art with substantial improvements, can perhaps be considered as a starting point from which the present invention has proceeded in a non-obvious way, i.e. the present invention is a non-obvious improvement over Stein.

In considering the present invention, and as is well known to those skilled in the present art, melt spinning of micro filaments is highly problematic, i.e. very difficult to successfully accomplish without breakage of the very fine filaments during extrusion or cooling. This is pointed out in applicants' specification in the top paragraph on page 2, which states allows:

For anyone skilled in the art, the melt spinning of microfilaments is not by any means trivial. Exit of the polymer melt from the fine nozzle bores and cooling of the filaments are very important steps in the process, because their uniformity very substantially affects the mass

uniformity, the textile properties such as strength and elongation and particularly the uniformity and quality of dyeing of the microfilaments and of the yarns assembled therefrom.

The very next paragraph in applicants' specification points out that the "constant temperature control in the high-viscosity polymer melt with little material flow up to the spinneret plate and through the capillary bores poses considerable problems for extremely fine filament titres."

Too high spinning temperatures cause a polymer degradation, and too low temperatures lead to greater filament irregularities and increased breakage of the filaments.

"These problems were not solved in the prior art."

One of the key features of the present invention involves the discovery of the problem and how to solve that problem. This solution involved the discovery by the present applicants of the relationship between the titre of a micro filaments and the relative solution viscosity. **Neither Stein nor Simons discloses any relationship between the titre of a microfilament and the relative solution viscosity of the melt.**

As noted above, melt spinning of micro filaments is especially problematic because the very fine filaments can easily break during extrusion or cooling. By the process according to the present invention, every filament titre to be produced calls for a characteristic viscosity of the melt for

improved melt spinning. As a result, breakage of the microfilaments due to tearing of the filaments at the spinner at plate is substantially absent when the process is carried out according to the present invention, contrary to the prior art. It was common in the prior art to use the too high relative solution viscosities of 1.60 to 1.65, as pointed out in the background section of applicants' specification, and this is consistent with Stein (note the examples in the table at the bottom of column 16 of Stein where the given viscosity is 1.64.

Simons discloses only a melt spinning process wherein, according to the abstract of Simons, the additions of trace amounts of up to about 0.4% by weight, based on the weight of the polyester, of ethylene glycol **distearate** "improves the process of spinning and drawing fibres from the resin and produces superior fibers."

Please also note that the broad teaching of Simons is to use an aliphatic diester, not a diol. Simons moreover points out near the top of column 3 (lines 10 and 11) why a diester is needed "at least a portion of which will be copolymerized with the polyester." Also see column 3, lines 51-58. The diester added by Simons is for the purpose of increasing draw ratios and the finishing properties of the resultant fibers.

Applicants do not see that Simons teaches that the additive reduces viscosity of the melt, and applicants also do not see that Simons discloses the use of relative solution viscosities less than 1.60, and applicants further do not see that Simons discloses or teaches the addition of ethylene glycol, diaethylene glycol or triethylene glycol. Simons therefore could not possibly teach the person ordinary skill in the art that any possible advantage could be achieved by lowering the viscosity, and therefore Simons could not lead the person of ordinary skill in the art to do what the present applicants have done. Simons provides no reason for doing so.

There is no disclosed relationship in Simons between viscosities and filament titre. In short, there would have been no reason for the person of ordinary skill in the art to adopt anything from Simons for modification of Stein.

Withdrawal of the rejection is in order and is respectfully requested.

The prior art documents of record and not relied upon by the PTO have been noted, along with the implication that such documents are deemed by the PTO to be insufficiently material to warrant their application against any of applicants' claims.

Applicants believe that all issues raised in the Official Action have been addressed above in a manner that

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should lead to patentability of the present application.  
Favorable consideration and early formal allowance are  
respectfully requested.

Respectfully submitted,

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By

A handwritten signature in dark ink, appearing to read "S. Neimark", is written over a horizontal line.

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